

What is claimed is:

1. An air cleaner arrangement including:
  - (a) a housing having an inlet end and an opposite outlet end;
    - (i) the housing having a sidewall in extension between the inlet end and the outlet end and defining a top, a bottom and opposite sides;
    - (ii) the housing sidewall including an access cover removable from a remainder of the housing; and
  - (b) a filter cartridge comprising:
    - (i) a z-filter media construction comprising a fluted sheet secured to a facing sheet, and having opposite inlet and outlet flow faces;
    - (ii) a sheath positioned surrounding the z-filter media construction;
    - (iii) a seal arrangement comprising a rubber like material positioned to axially seal the filter cartridge inside the housing;
    - (iv) a projection arrangement including projections extending outwardly from opposite sides of the sheath;
    - (v) the filter cartridge being sized to be positioned in, and to be removed from, an interior of the housing by passage through the housing sidewall when the access cover is removed; and
  - (c) the filter cartridge being positioned inside of the housing with:
    - (i) the seal arrangement axially sealed to the housing; and
    - (ii) a portion of the air cleaner arrangement in engagement with the projections on the sheath and thereby axially driving the filter cartridge and axially sealing the seal arrangement against the housing.
2. An air cleaner arrangement according to claim 1 wherein:
  - (a) the top of the housing includes the access cover;
  - (b) the z-filter media construction is coiled;
  - (c) the sheath is an impermeable, one-piece, plastic sheath;

- (d) the projection arrangement is integral with the one-piece plastic sheath;
  - (e) the seal arrangement is axially sealed to the housing with the rubber-like material compressed in thickness;
  - (f) the seal arrangement is axially sealed against the housing by compression of the seal arrangement; and
  - (g) the facing sheet is non-corrugated.
3. An air cleaner arrangement according to claim 1 wherein:
- (a) the facing sheet is non-corrugated.
4. An air cleaner arrangement according to claim 1 wherein:
- (a) the seal arrangement comprises polyurethane.
5. An air cleaner arrangement according to claim 1 wherein:
- (a) the rubber like material is compressed at least 0.5 mm
6. An air cleaner arrangement according to claim 1 wherein:
- (a) the filter cartridge is axially driven inside of the housing without filter cartridge rotation.
7. An air cleaner arrangement according to claim 1 wherein:
- (a) the rubber like material is compressed between a portion of the sheath and a portion of the housing.
8. An air cleaner arrangement including:
- (a) a housing having an inlet end and an opposite outlet end;
    - (i) the housing having a sidewall in extension between the inlet end and the outlet end and defining a top, a bottom and opposite sides;
    - (ii) the housing top including an access cover removable from a remainder of the housing; and

- (b) a filter cartridge comprising:
  - (i) a z-filter media construction comprising a fluted sheet secured to a facing sheet, coiled and having opposite inlet and outlet flow faces;
  - (ii) an impermeable, one-piece, plastic sheath positioned surrounding the z-filter media construction;
  - (iii) a seal arrangement comprising a rubber like material positioned to axially seal the filter cartridge inside the housing;
  - (iv) a projection arrangement including projections extending outwardly from opposite sides of the sheath; the projection arrangement being integral with the one-piece plastic sheath;
  - (v) the filter cartridge being sized to be positioned in, and to be removed from, an interior of the housing by passage through the housing sidewall when the access cover is removed;
- (c) the filter cartridge being positioned inside of the housing with:
  - (i) the seal arrangement axially sealed to the housing with the rubber-like material compressed in thickness; and
  - (ii) a portion of the air cleaner arrangement in engagement with the projections on the sheath and thereby axially driving the filter cartridge and axially compressing the seal arrangement against the housing.

9 An air cleaner arrangement according to claim 8 wherein:

- (a) the seal arrangement comprises polyurethane.

10. An air cleaner arrangement according to claim 9 wherein:

- (a) the seal arrangement comprises polyurethane foam.

11 An air cleaner arrangement according to claim 9 wherein:

- (a) the rubber like material is compressed at least 0.5 mm.

12. An air cleaner arrangement according to claim 11 wherein:
  - (a) the rubber like material is compressed at least 0.75 mm.
13. An air cleaner arrangement according to claim 8 wherein:
  - (a) the rubber like material is compressed between a portion of the sheath and a portion of the housing.
14. An air cleaner arrangement according to claim 13 wherein:
  - (a) the housing access cover includes projections thereon positioned in engagement with the filter cartridge, to help secure the sheath in position.
15. An air cleaner arrangement according to claim 14 including:
  - (a) a central support, inside the housing, in engagement with the filter cartridge.
16. An air cleaner arrangement according to claim 8 wherein:
  - (a) the portion of the air cleaner in engagement with the projections on the sheath comprises a biasing and lock mechanism including:
    - (i) a slider construction having at least one slide mounted in the housing and biased against the projection arrangement.
17. An air cleaner arrangement according to claim 16 wherein:
  - (a) the slider construction includes two slides mounted on the housing on opposite sides of the filter cartridge, each of the two slides being biased against the projection arrangement.
18. An air cleaner arrangement according to claim 17 wherein:
  - (a) the biasing and lock arrangement comprises an actuator construction including an operator arm, opposite control arms and a pair of biasing members;

- (i) the biasing arrangement being such that the operator handle is in a lowered position and the slides are biased by the biasing members to drive the cartridge into axial sealing engagement with the housing; and,
  - (ii) the operator handle being positionable in a raised position when the access cover is removed, to release the cartridge from the axial sealing engagement with the housing.
- 19. An air cleaner arrangement according to claim 8 wherein:
  - (a) the filter cartridge is axially driven inside of the housing without filter cartridge rotation.
- 20. An air cleaner arrangement according to claim 19 wherein:
  - (a) the facing sheet is non-corrugated.